CONSTRUCTION OPERATION AND MAINTENANCE PLAN
KERR-MCGEE CHEMICAL CORP. – SODA SPRINGS PLANT
SUPERFUND SITE
SODA SPRINGS, CARIBOU COUNTY, IDAHO

Prepared for:

Greenfield Environmental Multistate Trust, LLC
Trustee of the Multistate Environmental Response Trust

Prepared by:

Hydrometrics, Inc.
3020 Bozeman Avenue
Helena, MT 59601

March 2018

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

CONSTRUCTION OPERATION AND MAINTENANCE PLAN
KERR-MCGEE CHEMCIAL CORP. – SODA SPRINGS PLANT
SUPERFUND SITE
SODA SPRINGS, CARIBOU COUNTY, IDAHO

-DRAFT-

1.0 GENERAL INFORMATION

This Operation and Maintenance (O&M) Plan addresses care, operation, waste hauling, monitoring, and maintenance of the on-Site repository during construction and is included as Appendix E of the 10 Acre-Pond Removal Action Work Plan. Once the removal action has been completed, the existing O&M Plan for the Site will be updated to include long-term O&M requirements related to the removed 10-Acre Pond and new on-Site repository. Ongoing O&M activities will be modified to include any necessary work related to this project, the results of which will continue to be provided to EPA, the Lead Agency and IDEQ, the Non-Lead Agency, in regular monthly progress reports for the Site. The on-Site repository is designed in accordance with the substantive requirements of the Resource Conservation and Recovery Act (RCRA), Subtitle D regulations and guidelines.

1.1 PURPOSE

The purpose of this O&M Plan is to set forth the requirements for operation and maintenance of the on-Site repository and 10-Acre Pond area during construction. This O&M Plan establishes specific criteria and response timelines for repair for each inspection element, including notification provisions of required repairs; as well as, provides insight and guidance into the measures that will be implemented to properly transport waste materials from the 10-Acre Pond, Site excavations, and demolition areas to the on-Site repository. This O&M Plan provides:

1. Basic construction information;
2. Waste hauling and dust control requirements;
3. A description of all required Site inspection and monitoring activities, including the frequency with which each activity will be performed and the corrective actions that will be taken for each problem encountered; and
4. A description of all required Site maintenance activities, including the frequency with which each activity will be performed.

This plan also minimizes the risk to both the environment and human health by addressing the means and methods that will be utilized to implement dust control measures, maintain equipment, and sustain clean work and road surfaces.

1.2 RESPONSIBILITY

Pioneer Technical Services (Prime Contractor) is responsible for implementation of this plan and entering into a contract with the selected Construction Contractor. Greenfield Environmental Multistate Trust, LLC, Trustee of the Multistate Environmental Response Trust, (the Multistate Trust) is the Owner of the Site and is responsible for the control and implementation of the Site activities. Hydrometrics will provide independent QA as the Multistate Trust's representative during the Project.

1.3 COMMUNICATIONS

Lines of communication between the Prime Contractor, Construction Contractor, inspectors, Design Engineer and the Multistate Trust will be established before construction at the Site begins. All communications, inspection logs, and incurred problems shall be documented and copies provided to the owner/operator.

1.4 OPERATIONS LOG

The Prime Contractor will maintain an operations record of all Site inspections and maintenance activities. Communications between the Prime Contractor, Construction Contractor, Design Engineer, the Multistate Trust and other inspections should be documented and kept as part of the operation log. This log will be provided to the Design Engineer and Multistate Trust.

1.5 PUBLIC SAFETY AND HEALTH

Site access is currently controlled using fences, gates, and signage to prevent public access. Fencing will be installed around the perimeter of the new on-Site repository to prevent unauthorized access. The Prime Contractor will be responsible for ensuring that the Site is secure and gates and fences will be inspected weekly to keep the Site secure.

2.0 CONSTRUCTION INFORMATION

The on-Site repository consists of the following components listed in order from the bottom to the top of the cap:

1. Secondary Liner
    - Reinforced Geosynthetic Clay Liners (GCL) liner
2. Primary Liner
    - 60-mil Double Sided Textured HDPE flexible membrane liner (FML)
3. Leachate Collection and Removal (LCRS) System
    - 250-mil Geocomposite Drainage Layer
4. 3-foot Cushion Layer of Calcine Tailings
5. Waste
6. 12-inch Gas Migration Layer consisting of Calcine Tailings
7. Cap Composite Liner
    - Reinforced GCL liner
    - 60-mil Double Textured HDPE FML
8. Surface Water Collection and Removal (SWCRS) System
    - 250-mil Geocomposite Drainage Layer
9. Cover System
    - 18-inch Cover Soil Layer
    - 6-inch Growth Media layer
    - Grass Cover

3.0 WASTE HAULING AND DUST CONTROL

Waste Hauling and dust control measures are designed to control the emission of visible fugitive dust. These controls will be accomplished through the use of administrative, engineering, and physical controls. The mitigation of airborne dust generation is considered to be a priority. Throughout the Project, the necessary steps will be taken to effectively control dust in the working area during pond solids removal, building demolition, and excavation operations. The use of minimum amounts of water will be the main source for dust control.

3.1 ON-SITE TRANSPORT

Sorting and sizing of solid waste will occur at the removal/demolition site prior to being loaded in haul trucks. All oversized materials will be reduced at the removal/demolition site and once the debris and material is loaded into haul trucks, no further reduction of materials will be necessary. After all solid waste is loaded into the truck beds, any dust generating debris in the payload will be moistened prior to the vehicle leaving the loading area. The truck beds will utilize sealed tail gates. The use of truck bed covers may be considered if the physical shape of the truck beds accommodate. Transport vehicles will be limited to a maximum of 15 miles per hour (mph) while transporting waste to the repository. Limiting speeds will prevent dust from become airborne during transport and will prevent the kick-up of dust from rolling tire action.

3.2 PLACEMENT OF WASTE

Once haul trucks arrive at the on-Site repository, they will drive into the cell and dump their load in the location specified by the contractor. A water truck will be located close to the on-Site repository cell to lightly mist debris and knock down any dust during the dumping and spreading phase of the debris in the on-Site repository. Use of water will be kept to a minimum. Additional water will be applied to locations in the on-Site Repository to eliminate the potential for fugitive dust emissions. Waste will be placed in the on-Site repository cell in 2-foot lifts and compacted according to Project Specifications. Inspections of the on-Site repository cell will occur at least twice daily to assess the potential for

windblown dispersion of fugitive dust. Water will be applied to areas of the cell where fugitive dust could potentially or is found to be a problem.

3.3 WORK STOPPAGE

Work shall halt when weather conditions are such that the spread of contaminated dust and debris is likely. These conditions typically exist when there is excessive wind and/or rain. Therefore, if wind with sustained readings of 15 mph (average hourly rate) or more evolve, the handling and hauling of waste both on-Site and off-Site will halt to prevent dust and debris from becoming airborne due to the waste management process. Furthermore, if a rain event begins, management personnel will evaluate the Site conditions. If the rain is such that no run-off is occurring, work activities will proceed uninhibited. In the event that the rain is of such volume that run-off is beginning to occur and the work activities in progress (i.e., waste hauling, placement of waste in on-Site repository) could create a contaminated run-off, both on-Site and off-Site work will cease until such time that a run-off potential is not present. In the event that transport is halted, no additional trucks will be loaded and any trucks containing wastes will be covered until conditions improve.

3.4 DECONTAMINATION AND INSPECTION OF EQUIPMENT

Equipment used in the handling and/or transport of contaminated debris will be decontaminated prior to the equipment leaving the Site. Decontamination pads, a concrete slab suitable for placement of heavy equipment, will be established, in areas agreed upon with and approved by the Design Engineer on behalf of the Multistate Trust. The location of the decontamination pads may change as demolition activities progress. However, all equipment will be decontaminated within close proximity to where it will leave the Site. Equipment that has been decontaminated will be inspected upon completion to ensure the adequacy of the process and to document the process to ensure quality control prior to the transport vehicle leaving the Site.

Decontamination will consist of one or a combination of the following: brushing, vacuuming, or washing methods. The goal of the decontamination is to remove Site contaminants of concern (COC) bearing dust and debris from the areas of the equipment that came into

contact with this waste. Upon completion of the decontamination activities, any removed dust and debris residue will be picked up and placed into the on-Site repository.

Transport vehicles will be inspected periodically to ensure that truck beds and gates are properly sealed and that debris is not building up.

Equipment used in the on-Site repository for spreading and compacting waste will be decontaminated within the on-Site repository prior to exiting.

3.4.1 Work and Road Surface Cleaning

Haul roads within the Site used for waste transport will need to be kept clean at all times. The haul roads will be inspected daily to make sure transport vehicles are being adequately decontaminated, waste is adequately moistened, and no fugitive debris is leaving the truck beds.

3.5 SPILL MITIGATION

Spills of soils or debris being transported to the on-Site repository will be prevented by constant maintenance of trucks to make sure they are properly sealed and in good working order. In addition, traffic control and slow truck speeds, as previously mentioned will help to prevent accidents from occurring. If waste is spilled in route to the on-Site repository, the hauling of waste will halt and the spilled waste will be cleaned up using clean decontaminated equipment.

Daily inspections of the area surrounding the on-Site repository cell will include looking for visible fugitive emissions. If a release from the cell is noticed during an inspection, the waste will be cleaned up using clean decontaminated equipment and placed in the on-Site repository cell. Excavation of soils where visible waste is noticed will be conducted immediately.

4.0 SURVEYING AND RECORDKEEPING

The Prime Contractor will establish a permanent surveyed benchmark, which will be placed on the top of the on-Site repository once the final cap is complete. After the permanent surveyed benchmark is established, the contractor will publish a map to be kept on file in the operations record, which includes the exact location and dimensions, including depth of the cell.

5.0 CLOSURE PLAN

This plan identifies the steps necessary to perform final closure of the on-Site repository. Final closure will be completed when all waste has been placed in the on-Site repository and it is ready for the permanent cover. The final cover has been designed and will be constructed in accordance with the substantive requirements of 40 CFR 258.60(a).

5.1 CLOSURE ACTIVITIES

Before final closure of the on-Site repository, equipment used for placement of wastes inside the on-Site repository will be thoroughly decontaminated prior to leaving the on-Site repository. The haul roads used to move contaminated pieces of equipment will be thoroughly scraped after transport is complete to ensure that no contaminated residues remain on the roads. Other activities including, leachate collection monitoring, and run-on and runoff control will be monitored as outlined in Section 6.0 during the closure period.

5.2 CLOSURE SCHEDULES

It will take one construction season at the Site before all waste is placed in the on-Site repository and the repository is ready for closure. Upon final receipt of waste to the on-Site repository, it should take approximately 30 days to place the final cover.

6.0 SITE MONITORING AND INSPECTION

Inspections will be performed twice daily of areas surrounding the on-Site repository and the haul road between the on-Site repository and the 10-Acre pond/demolition areas when the on-Site repository is in operation. Daily inspections of the road used for hauling waste will occur when the haul road is in use. While the on-Site repository cell is in operation, it will be inspected once per week.

6.1 SITE INSPECTIONS – OPERATION

6.1.1 Daily Inspections

While the on-Site repository is in operation, inspection of the grounds surrounding the on-Site repository should be inspected twice daily. These inspections should include an assessment of the potential for windblown dispersion of fugitive dust from the on-Site repository and a visual inspection of the grounds surrounding the on-Site repository for any visible releases of fugitive dust from the on-Site repository cell. The remainder of the haul road should be inspected once per day to ensure that it is free of dust and debris. Daily inspections should be documented and recorded on the Daily Inspection Form included in Attachment A of this Appendix and any problems found will be reported to the Multistate Trust and addressed immediately.

6.1.2 Weekly Inspections

While the on-Site repository is in operation, it must be inspected weekly and after significant storms to detect evidence of any deterioration, malfunctions, or improper operation of run-on and runoff control systems, and the proper functioning of or presence of liquids in the leachate collection system. Anchor trenches around the perimeter of the cover will be inspected for liner pullout. Sandbags will be inspected for proper spacing and damage. Inspection of the perimeter fence, gates, condition of haul roads, presence of precipitation run-off or ponded liquids, condition of decontamination pads, and the condition of haul trucks will be included in weekly inspections and any maintenance needed will be recorded on the Weekly Inspection Form included in Attachment A of this Appendix and addressed appropriately.

6.2 LEACHATE COLLECTION SYSTEM MONITORING

The monitoring and maintenance of the on-Site repository leachate collection system will include removing liquids from the sump to minimize the head in the sumps and avoid backup into the waste layer. The Prime Contractor will record pre- and post-pumping water levels and the amount of liquids removed from the leachate collection system sump. The amount of liquids removed will be recorded on the repository inspection form (Attachment A).

The Prime Contractor will insure that the depth of leachate does not exceed 12 inches over the primary liners by monitoring leachate depth in the leachate collection sump. If the depth of the leachate in the sump is at or near 12 inches, the contractor will pump the sump and use or dispose of leachate by recirculating the leachate to waste within the on-Site repository or if necessary, hauling offsite to a hazardous waste facility for disposal.

6.3 CORRECTIVE ACTION FOR IDENTIFIED PROBLEMS

If any problem or deficiency is found during any inspection type the following procedures will be followed. The inspector will record the location on a field sketch and will record a complete description of the affected area, including all pertinent data (i.e., size of the area and other descriptive remarks such as exposed synthetic materials, and odors, etc.) on the appropriate reporting forms. An accurate and detailed description of observed conditions will enable a meaningful comparison of conditions observed at different times. This information has three elements.

1. Location - The location of any questionable area or condition will be accurately described so that the area or condition can be evaluated for changes over time, repaired, or reexamined by experts.
2. Extent or Area - The length, width, and depth or height of any suspected problem area will be measured.
3. Descriptive Detail - A brief, but detailed description of the anomalous condition will be given.

Photographs are helpful in documenting problems. The Prime Contractor will keep a photographic log of problems, repairs, and general Site conditions. This log will provide valuable information when evaluating the long-term performance of the cover system and when planning repair strategies.

If any problems are encountered during routine inspections, they will be documented on the Inspection/Repair form and the Design Engineer and the Multistate Trust will be notified within 24 hours. The Prime Contractor is responsible for making sure all repairs are scheduled and/or completed within 14-calendar days of the inspection. Details of completed repairs will be noted on the Inspection/Repair form.

7.0 SITE MAINTENANCE

7.1 GENERAL

This section provides guidelines for instituting and understanding the need for an effective maintenance program. The objectives of such a maintenance program are to:

1. Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;
2. Ensure reliability of operation and limit environmental impacts;
3. Protect and extend the useful life of the on-Site repository structure; and
4. Ensure public health and safety.

7.1.1 Importance of Maintenance

The on-Site repository structure represents a substantial investment to protect the public health and environment of the areas surrounding the Site. One of the important factors to minimizing environmental impacts resulting from the Site is a sound maintenance program. A sound maintenance program has the added benefit of identifying problems before they become emergencies.

7.1.2 Types of Maintenance

As shown in Table 7-1, there are four types of maintenance listed by priority rather than by frequency. Table 7-1 is provided as a guide to help put the types of maintenance into proper perspective. The different types of maintenance are also discussed in the following subsections.

TABLE 7-1. PRIORITY OF MAINTENANCE TASKS

Priority	Type of Maintenance	Description and Example
1	Emergency	A situation requiring immediate attention (for example, fire, earthquake, or flood).
2	Preventative	Scheduled inspection and minor repairs carried out during inspection (for example, cleaning of gutters and culverts).
3	Corrective	Corrective maintenance required as a direct result of scheduled inspection (for example, repair of torn membrane liner).
4	Housekeeping	Routine housekeeping of buildings and grounds (for example, mowing grass, painting, and general housekeeping).

1. Emergency maintenance - Emergencies are situations arising unexpectedly that require urgent attention. Often, immediate response must be provided to avert potential serious damage. Provisions for emergency repair/damage control activities and an Emergency Contacts list will be prepared and kept current with a list of phone numbers for local emergency response organizations, lining contractors, and agency and owner representatives. Table 7-2 provides a list of Emergency Contacts.

2. Preventative maintenance - Preventative maintenance is work done to extend the life of equipment and structures. With the exception of routine surveillance and inspections, preventative maintenance tasks will be scheduled in accordance with the recommendations of the material and equipment manufacturers. Scheduled inspection and maintenance of all Site facilities will help ensure that potential problems are discovered and corrected before they become serious, as well as providing for the performance of periodically required upkeep. During routine inspections, the property managers will be alerted for any abnormal conditions, which could indicate potential problems.

TABLE 7-2. EMERGENCY NOTIFICATION CONTACTS AND PHONE NUMBERS

General Emergency Numbers

Fire Department	911
Ambulance	911
Police	911

Owner

Multistate Trust:

Cindy Brooks	(617) 448-9762
Tasha Lewis	(602) 312-6993
Lars Peterson	(480) 319-3638

Design Engineer

Hydrometrics:

Mark Rhodes	(406) 431-1637

Prime Contractor

Pioneer Technical Services:

Joel Gerhart	(406) 490-2530

Other Resources

Scott Rigby	(208) 221-4340
EPA (24-hour emergency)	(206) 553-1263
Superfund/RCRA Hotline	(800) 424-9346

3. Corrective maintenance - Corrective maintenance is the work required for repairs and other non-routine maintenance. The on-Site repository contractor will handle these tasks as the need arises. Corrective maintenance procedures will follow the equipment or material manufacturer's recommendations. In planning for the corrective maintenance, the contractor will arrange for advice or assistance from an engineer or manufacturer's representative.

4. Housekeeping - Maintaining well-kept Site closure facilities indicates pride on the part of the on-Site repository owner and cultivates good neighbor relations with adjacent property owners. Housekeeping tasks include controlling weeds, sweeping pavement surfaces, and collecting/disposing of litter or debris.

7.1.3 Maintenance Log

A maintenance log will be maintained by the contractor as part of the on-Site repository Operations Record.

7.2 REPOSITORY PERMANENT CAP

Once the 10-Acre Pond removal action and other remedial actions or activities have been completed, the existing O&M Plan for the Site will be updated to include long-term O&M requirements related to the removed 10-Acre Pond and new on-Site repository. Ongoing O&M activities will be modified to include any necessary work related to this project, the results of which will continue to be provided to EPA and IDEQ in regular monthly progress reports for the Site.

ATTACHMENT A

INSPECTION FORM AND SITE MAP